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NOTES ON GEOGRAPHIC DISTRIBUTION

Multiple new records of *Gymnoscyphus ascitus* Böhlke and Robins, 1970 (Perciformes: Gobiesocidae) from the western Central Atlantic

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ABSTRACT: We document multiple new records for the deep-water clingfish species *Gymnoscyphus ascitus* Böhlke and Robins 1970, known previously from only nine specimens collected at the type locality along the Atlantic coast of the Lesser Antillean island of St. Vincent. Five additional specimens, four from the Caribbean Sea (Mexico, Cozumel) and one from the Atlantic (north coast of Cuba), are reported.

Members of the family Gobiesocidae (159 species representing 47 genera; Eschmeyer and Fong 2011) are typically small, cryptic marine fishes of the intertidal zone, equipped with a large, ventral adhesive disk (a modification of the pectoral and pelvic fins) with which they adhere to the substrate. Commonly referred to as clingfishes, members of this family are relatively poorly studied and we currently know little about their ecology or evolutionary relationships. The vast majority of research conducted on clingfishes to date is best described as alpha taxonomic and built upon the taxonomic framework outlined by the last reviser (Briggs 1955). Subsequent to Briggs (1955) multiple new species and even new genera of clingfishes have been described, including a number of particularly noteworthy deep-dwelling taxa (Böhlke and Robins 1970; Hardy 1984).

In 1970, *Gymnoscyphus ascitus* Böhlke and Robins was described as a new genus and species, based on nine specimens collected from the Atlantic Ocean, off the east coast of St. Vincent (Böhlke and Robins 1970). These specimens were collected via blake trawls through rubble substrates at depths of 231-258 meters and differed markedly from other New World members of the family known at that time, both in terms of habitat preferences and morphology. The most striking difference between *Gymnoscyphus* and other genera of clingfishes is the greatly reduced adhesive disk of the former, which is completely devoid of papillae (Böhlke and Robins 1970). All other members of the Gobiesocidae exhibit dense aggregations of circular-cuboid shaped papillae over the ventral surface of the adhesive disk, the arrangement of which is of great importance in generic identification (Briggs 1955). No additional reports of *Gymnoscyphus ascitus* are available since its original description and its distribution is considered to be restricted to the Atlantic coast of St. Vincent (McEachran 2003).

Examination of unidentified clingfish specimens maintained within the collections of the Museum of Comparative Zoology (MCZ), Harvard University, and the Texas Cooperative Wildlife Collection (TCWC), Texas A&M University, revealed 5 additional specimens of *G. ascitus*. Like the type series, these specimens were also collected via trawls in relatively deep water. The single MCZ specimen, collected off the North coast of Cuba (Atlantic Ocean) during the 1938-39 Atlantis Harvard-Havana expedition (Chace 1940), is in good condition apart from minor damage to the caudal and pectoral fins (Figure 1A-C). Interestingly, the adhesive disk of this specimen exhibits a deep notch along its anterior edge (Figure 1C), a feature not reported from the type series by Böhlke and Robins (1970). Unfortunately, the four TCWC specimens, collected from the channel between mainland Mexico and the Island of Cozumel (Caribbean Sea), are in poor condition, with damage to the body and all fins, and it

FIGURE 1. Lateral (A), dorsal (B) and ventral (C) views of *Gymnoscyphus ascitus* (MCZ 149570, 20.2 mm SL). A-C copyright of the Museum of Comparative Zoology, Harvard University, and used with permission.

is was not possible (even at high magnification; Figure 2) to confirm whether these specimens also exhibit the deep notch along the anterior edge of the adhesive disk present in the MCZ specimen. Despite slight differences in disk morphology the specimen of *Gymnoscyphus* from the MCZ is considered conspecific with *G. ascitus* pending further investigation.

The five additional specimens of *Gymnoscyphus ascitus* reported herein, representing two lots from two separate museum collections, significantly extend the known range of the species throughout the western Central Atlantic region (Figure 3). Additional survey work of deep benthic coastal regions throughout the Caribbean Sea may produce additional specimens of this interesting and poorly known deep-dwelling clingfish species.

Collection information: MCZ 149570, 1 specimen, 20.2 mm in standard length (SL), Atlantic Ocean: Cuba, Old Bahama Channel, off Cayo Coco (22°37'00" N, 78°23'30" W), 318 meters depth, 28 April 1939, Atlantis Harvard-Havana expedition (Figure 1A-C). TCWC 6207.10, 4 specimens, 16.4-23.0 mm SL, Mexico, Caribbean Sea, off west coast of Cozumel (20°26'00" N, 87°14'00" W), depth unknown, 11 April 1976, Marine Biomedical Institute (Figure 2).

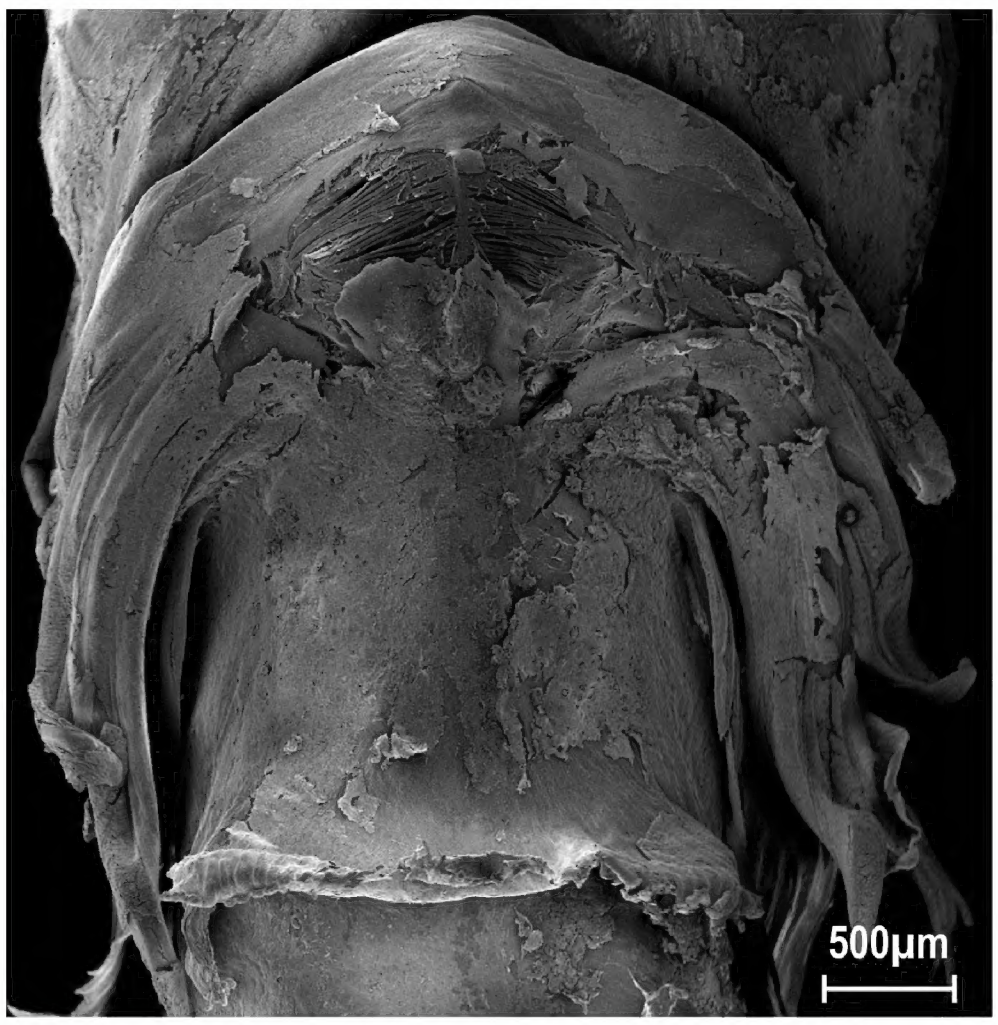

FIGURE 2. Scanning electron micrograph of the ventral adhesive disk of *Gymnoscyphus ascitus* (TCWC 6207.10, 16.4 mm SL). Anterior to top. Surface of disk badly damaged, with underlying muscle fibers exposed on anterior portion.

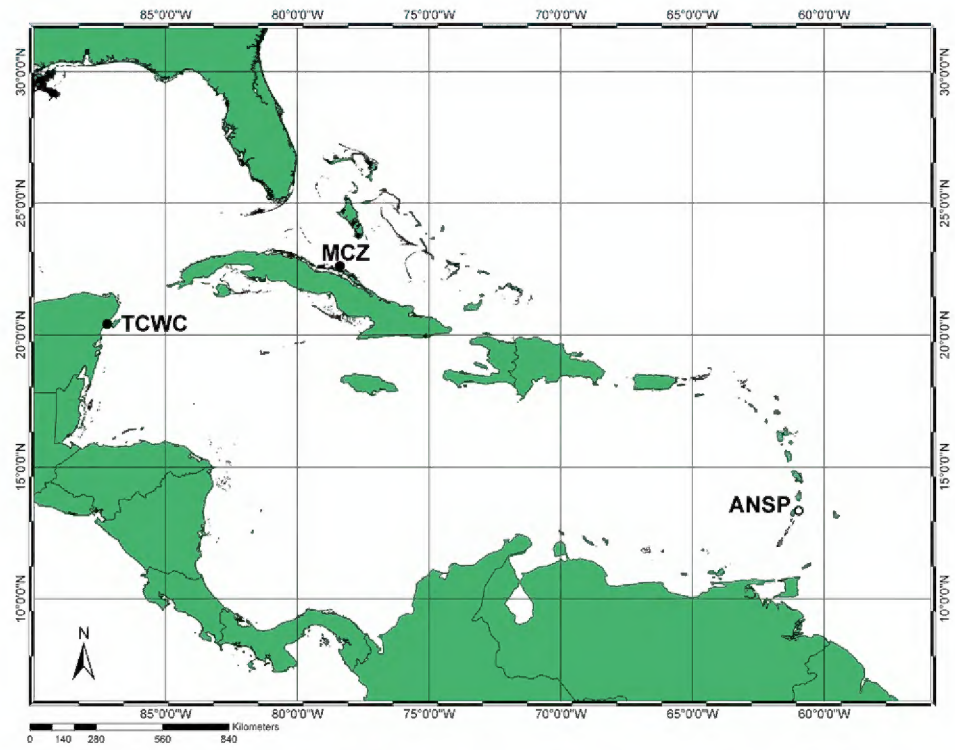

FIGURE 3. Known collection localities for *Gymnoscyphus ascitus* from throughout the western Central Atlantic. ANSP refers to the type locality (Academy of Natural Sciences, ichthyology specimens 113587 [holotype], 113588 and 113589 [paratypes]; St. Vincent, Atlantic Ocean [13°13.9' N, 61°04.7' W], 231-258 meters depth, 6 July 1969, R/V PILLSBURY sta. 876).

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